526. SCIENCE STANDARDS - GRADE KINDERGARTEN, SECTIONS 528 THROUGH 538.

The samples associated with the content standards are meant to illustrate meaning and to represent possible areas of applications. They are not intended to be an exhaustive list, but are samples of applications that would demonstrate learning.

527. UNIFYING CONCEPTS OF SCIENCE.

Standard - The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand concepts and processes of evidence, models, and explanation.	a. Explore the concepts of observation and data collection.	i. Pumpkin exploration activities, including comparison. ii. Apple exploration activities, including comparison. iii. Weather observation, comparison, and data collection.
	b. Explore and use various models.	i. Globe. ii. Mouth model. iii. Centers (blocks, clay).
02. Understand constancy, change, and measurement.	a. Explore changes.	i. Illustrate the way individuals appeared as babies, kindergartners, and the way they think they will look as adults. ii. Cooking activities. iii. Color blending.
	b. Measure in non-standard units.	i. Measure objects in the classroom using: linking cubes, ribbons, string, one-inch cubes, and unit blocks. ii. Comparing height of other children to themselves.
03. Understand the theory that evolution is a process that relates to the gradual changes in the universe and of equilibrium as a physical state.	a. Understand the concepts of yesterday, today, and tomorrow.	i. Daily calendar activities. ii. Counting down to holidays or special events.

529. CONCEPTS OF SCIENTIFIC INQUIRY.

Standard - The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand scientific inquiry and develop critical thinking skills.	a. Make observations.	i. Weather observations. ii. Smother candle flame in a jar. iii. Describe classroom pets.
	b. Use various tools to gather information.	i. Use of magnifying glasses, tweezers, eyedroppers, and scale. ii. Use the five senses to gather information.
	c. Communicate observations.	i. Draw a picture of which objects sink and which objects float. ii. Dictate a passage to an adult to explain why a duck is a good swimmer.

530. CONCEPTS OF PHYSICAL SCIENCE.

Standard - The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand the structure and function of matter and molecules and their interactions.	a. Use senses to explore and describe matter.	i. Mystery sack or surprise box to describe what is inside. ii. Closed-eye taste or smell test.

531. CELLULAR AND MOLECULAR CONCEPTS.

Cellular and Molecular Concepts standards do not apply at this grade level.

532. INTERDEPENDENCE OF ORGANISMS AND BIOLOGICAL CHANGE.

Standard – The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand the theory of biological evolution.	a. Observe and explore the characteristics of plants and animals.	
	b. Sort animals into wild and domestic categories.	

533. MATTER, ENERGY, AND ORGANIZATION IN LIVING SYSTEMS.

Standard - The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand the relationship between matter, energy, and organization to trace matter as it cycles and energy as it flow s through living systems and between living systems and the environment.	a. Recognize the difference between living and non-living things.	i. Discover the needs of living things, such as food, water, air, and shelter. ii. Sort pictures of living and non-living items. iii. List difference of living and non-living items found in the classroom.

534. EARTH AND SPACE SYSTEMS.

Standard – The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand scientific theories of origin and subsequent changes in the universe and earth systems.	a. Observe and identify the four seasons.	i. Learn the terms fall, winter, spring, and summer. ii. Use appropriate colors to draw a picture of each season. iii. As a yearlong bulletin board display, dress a paper bear in clothing appropriate for daily weather.
	b. Observe different weather conditions.	i. As you are dressing your weather bear, discuss the different weather conditions.

535. TECHNOLOGY.

Standard – The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand the relationship between science and technology and develop the abilities of technological design and application.	a. Distinguish between natural objects and objects made by humans.	i. Tree versus pencil. ii. Rock versus airplane.
	b. Recognize that people have invented tools for everyday life and for scientific investigations.	i. Classroom walk outside to find natural objects: classroom walk inside to find objects made by humans. ii. Use various writing tools (technological) and discuss their differences, (pencil, chalk, brush, charcoal, markers, mechanical pencil, and computer word processor).
	c. Create a tool to perform a specific function.	
	d. Use available and appropriate technology.	i. Computerized reading program or other computer learning aids.

536. PERSONAL AND SOCIAL PERSPECTIVES.

Standard – The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand common environmental quality issues, both natural and human induced.	a. Observe and discuss characteristics of the local environment.	i. Take a walk around the school and observe the physical characteristics of surrounding environment.
02. Understand the importance of natural resources and the need to manage and conserve them.	a. Understand the concept of recycling.	i. Collect aluminum cans and art scraps. ii. Visit a recycling plant.
	b. Discuss the conservation of natural resources.	i. Forests. ii. Water. iii. Use children's literature to illustrate concept.

537. HISTORY OF SCIENCE.

Standard – The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand the significance of major scientific milestones.	a. Understand major contributions of various scientists and researchers.	

538. INTERDISCIPLINARY CONCEPTS.

Standard – The student will:	Content Knowledge and Skills:	Samples of Applications:
01. Understand that interpersonal relationships are important in scientific endeavors.	a. Learn appropriate cooperation and interaction skills.	i. Provide opportunities and settings for the students to work together.
02. Understand technical communication.	a. Understand and follow instructions.	i. Follow a two-step direction. (Push in chair and line up.) ii. Place partners on opposite sides of a barrier. Have one partner build a train of linking cubes and verbally direct a partner to duplicate it.